



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,452

09/26/2006

Ulf Bjorkman

69993-236436

9258

26694

7590

04/22/2008

VENABLE LLP

P.O. BOX 34385

WASHINGTON, DC 20043-9998

EXAMINER

CARLOS, ALVIN LEABRES

ART UNIT

PAPER NUMBER

3714

MAIL DATE

DELIVERY MODE

04/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,452	<b>Applicant(s)</b> BJORKMAN ET AL.	
	<b>Examiner</b> ALVIN L. CARLOS	<b>Art Unit</b> 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/02/2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 27 is objected to because of the following informalities: On page 10 line 6, the “and” is believed to be in error and need to be omitted. Appropriate correction is required.

### ***Drawings***

2. The drawings are objected to because the figures 2, 4-6 languages are not in English. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Varshneya 6386879.

Re claim 1, Varshneya teaches a weapon effect simulation system (column 1 lines 5-8), comprising a fire simulation system comprising means for transmitting electromagnetic waves to simulate real ammunition from a weapon and means for including information in the electromagnetic waves (column 2 lines 2-5), means for calculating an imagined trajectory of the simulated ammunition and means for determining a geographical position of the weapon (column 2 lines 5-7), including information in the electromagnetic waves is operative to include information related to coordinates in the three-dimensional space for the calculated ammunition trajectory (column 2 lines 7-9), and at least one hit simulation system comprising means for receiving the transmitted electromagnetic waves and means for determining whether a target has been hit based on the received electromagnetic waves (column 2 lines 9-19).

Re claim 2, Varshneya teaches the means for transmitting electromagnetic waves comprises a laser transmitter operative to transmit laser radiation with at least one beam lobe (see figure 1B, column 2 lines 55-62).

Re claim 3, Varshneya teaches the means for transmitting electromagnetic waves further comprises a radio transmitter operative to transmit radio waves (column 3 lines 4-14).

Re claim 4, Varshneya teaches the means for determining whether the target has been hit is operative to determine target hits based primarily on the information in the laser radiation and secondarily on the information in the radio waves (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 5, Varshneya teaches the means for transmitting electromagnetic waves comprises a radio transmitter operative to transmit radio waves (column 3 lines 4-14).

Re claim 6, Varshneya teaches the means for including information in the electromagnetic waves is operative to continuously include, based on the calculated trajectory, information concerning the current trajectory position of the simulated ammunition (column 3 lines 15-24).

Re claim 7, Varshneya teaches the means for including information in the electromagnetic waves is operative to including information concerning the trajectory positions of the simulated ammunition during a period of time that is shorter than the flight time of the real ammunition and based on the calculated trajectory (column 4 lines 32-57).

Re claim 8, Varshneya teaches the means for calculating the trajectory of the simulated ammunition is operative so as to determine the impact point or burst point of

the ammunition, and the information related to the calculated ammunition trajectory contains the impact point or burst point (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 9, Varshneya teaches the fire simulation system comprising a transmitter operative to transmit information regarding the geographical position of the weapon, and a minimum of one of the hit simulation systems comprises a receiver operative to receive said position data (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 10, Varshneya teaches the information related to the calculated ammunition trajectory is determined relative to the geographical position of the weapon (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 11, Varshneya teaches hit simulation system comprising means for determining the geographical position of the target (column 4 lines 16-31).

Re claim 12, Varshneya teaches hit simulation systems comprising a transmitter and the fire simulation system comprising a receiver operative to receive information from the transmitter of the hit simulation system (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 13, Varshneya teaches the transmitter is operative to transmit information regarding the geographical position of the target (column 4 lines 43-47).

Re claim 14, Varshneya teaches the calculating means is operative to determine which target has been hit, and information related to the calculated ammunition trajectory includes information that identifies the determined target (column 4 lines 32-57).

Re claim 15, Varshneya teaches the transmitter is operative to transmit a hit message upon determination of a hit (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 16, Varshneya teaches the receiver for a hit simulation system that has not determined a hit, secondary object is operative to receive the transmitted hit message (column 5 lines 3-10).

Re claim 17, Varshneya teaches the means of the secondary object for determining hits is operative to decide upon receiving hit messages whether the secondary object has been hit (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 18, Varshneya teaches the means for transmitting electromagnetic waves is operatively connected with the receiver of the fire simulation system and is operative to break off the simulation upon receiving the hit message (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 19, Varshneya teaches the fire simulation system comprising means for displaying hit locations and effects based on received hit messages (column 5 lines 6-10).

Re claim 20, Varshneya teaches the means for displaying hit locations and effects is operative to display hit locations and effects visually (column 5 lines 6-10).

Re claim 21, Varshneya teaches the fire simulation system is disposed at a weapon (see figure 1A, column 2 lines 57-59).

Re claim 22, Varshneya teaches the means operative to determine the geographical position of the weapon has a geographical position that is separate from

the geographical position of the means operative to transmit electromagnetic waves for simulating real ammunition (column 2 lines 55-67 and column 3 lines 1-4).

Re claim 23, Varshneya teaches hit simulation system is disposed in connection with a respective target (see figure 1A, column 4 lines 16-31).

Re claim 24, Varshneya teaches the means for determining whether a target has been hit is operative to determine the hit location on the target (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 25, Varshneya teaches a player comprising fire simulation system and a hit simulation system wherein the means of the hit simulation system for determining whether a target has been hit are operatively connected with the means of the fire simulation system for transmitting electromagnetic waves and operative to break off the simulation in the event that a hit is determined corresponding to damage or injury that renders continued firing impossible (column 4 lines 32-67 and column 5 lines 1-10).

Re claim 26, Varshneya teaches a fire simulation system for weapon effect simulation systems (column 2 lines 3-20), comprising means for transmitting electromagnetic waves for simulating ammunition from a weapon (column 2 lines 57-59), means for including information in the electromagnetic waves operative to include information related to coordinates in the three-dimensional space for the calculated ammunition trajectory (column 2 lines 59-66), means for calculating the imagined trajectory of the ammunition (column 5 lines 1-3), and means for determining the geographical position of the weapon (column 4 lines 32-67 and column 5 lines 1-10).



Re claim 27, Varshneya teaches a method for simulating the effect of a weapon on one or more potential targets (column 1 lines 1-4), comprising: modulating with information electromagnetic waves for simulating ammunition from the weapon (column 2 lines 3-6), information related to coordinates in the three-dimensional space for the calculated ammunition trajectory (column 2 lines 55-67 and column 3 lines 1-4), transmitting the modulated electromagnetic waves for reception by the potential targets (column 4 lines 16-31), making a determination is made upon reception for each respective target as to whether the target has been hit, based on the received electromagnetic waves and calculating the imagined trajectory of the simulated ammunition (column 4 lines 32-67 and column 5 lines 1-10).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as per the attached Notice of References Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALVIN L. CARLOS whose telephone number is (571)270-3077. The examiner can normally be reached on 7:30am-5:00pm EST Mon-Fri (alternate Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571)272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alvin L Carlos/

Examiner, Art Unit 3714

April 17, 2008

/XUAN M. THAI/

Supervisory Patent Examiner, Art Unit 3714